

## PART V

### MANAGEMENT

### AND OPERATIONS

#### Chapter 16

#### MANAGEMENT OF PUBLIC TRANSPORTATION

GEORGE M. SMERK

Interest in the improvement of urban mass transportation was initiated as a result of efforts by the national government through its policy in support of the transit industry. Public policy toward urban mass transportation on the federal level began in 1961 with a small-scale program of demonstrations and loans. After a slow start, the programs established by the federal government picked up momentum; by 1970, federal aid was available through the Urban Mass Transportation Administration (UMTA) for a variety of program purposes, including capital improvements; research, development, and demonstration; planning; and management training. In 1973, certain moneys of the Highway Trust Fund were made available for mass transportation purposes. In 1974, Congress adopted legislation that gave federal transit funds to *urbanized areas* (cities above 50,000 population) on a formula basis. In 1978, the program was expanded to include a formula program for nonurbanized areas. The formula programs covered operating as well as capital costs. In 1982, extraordinary types of capital improvements were given a special source from a penny added to the federal fuel tax. (For details of the history of public transportation see Part I.)

Starting in the 1960s, much of the research sponsored by UMTA was devoted to the development of hardware, in the apparent hope that there would be a breakthrough in technology that would somehow help solve the problems of mass transportation. There was little emphasis on research and development for the purpose of helping to upgrade management or to develop new concepts and new approaches to the management of urban mass transit. Happily, beginning in the early 1970s, UMTA began to turn more of its attention and funds toward the improvement of transit management. Transit properties, especially throughout the United States, and the private contract management companies in particular, sought better ideas and management techniques. This reflected a growing concern with the quality of

management in transit and recognition of its importance in making transit more useful and attractive to the urban traveler.

Recognition of the importance of transit management and new and more imaginative means of management is testimony to an often overlooked fact of life in public transportation. Obviously, technology and its improvement are important in any enterprise, but the tools of technology are merely resources and can be only as effective as management skill permits. It is only good sense to examine carefully the concepts and approaches to transit management that will permit the assets of a transit firm—both human and material—to be utilized most effectively.

### THE ROOTS OF THE TRANSIT MANAGEMENT PROBLEM

From the early part of the nineteenth century, transit was traditionally managed as a privately owned, monopolistic public utility following the typical ways and means of any regulated, capitalistic undertaking; long ago, changes in population distribution in urban areas and the growth in the use of private automobiles changed the nature of cities and urban mobility, while ending transit's monopoly position. Now that most of the transit industry is publicly owned, the management problem is even more clouded in terms of a rationale to guide managers. The management of publicly owned enterprises poses a major difficulty in the United States, because the country does not really have a long history or well-developed ethic of public enterprise management. Whatever tradition exists is based mainly on the management of truly monopolistic undertakings, such as city-owned water utilities. The lessons learned in the management of the only water company in town provide few clues for management of a mass transportation agency that must operate in direct competition with the private automobile. It takes no genius to see that modern business management techniques could have a revolutionary impact on traditional transit management. As an example, the transit industry and its management have almost always been operations oriented. This means that the conventionally well managed transit property is adept at servicing and maintaining equipment; scheduling, dispatching, and otherwise seeing to it that equipment is on the street and rolling; and utilizing vehicles and personnel in what is hoped to be the least costly manner. What traditional management lacks is a feel for the consumer and, perhaps even more important, the *potential* consumer of public transportation services. On the other hand, modern business management techniques and strategies are generally aimed primarily at serving the consumer. Similar techniques and strategies are applicable to the transit industry, especially in its role as a competitor with the automobile or—in view of potential environmental and energy problems—as an alternative to the private car. The purpose of this chapter is to examine some of the reasons behind the typical management rubric in public transportation and to sketch out the kind of approach that would be most practical in establishing a framework of managerial practice appropriate to today's transit situation.

Not to belabor a point already made but to signify its importance in managerial thought processes, transit management has traditionally been consumed with interest in the operations of transit, rather than concerned with the consumers who use it. Transit is not unique in this orientation; it is common in all the transportation industries. One very good reason for this attitude is that transportation firms, transit included, usually possess very complex operation problems that tend to overshadow other proper concerns of management. In the developmental stages of most modes of transport, the problems of scheduling personnel and equipment, fighting the elements, and overcoming the limitations of equipment and facilities were matters of paramount urgency. Until the advent of the privately owned bicycle, automobile, and truck, most urban dwellers were dependent upon for-hire carriers to move them or their goods.

Finding and retaining good management people is a problem for any enterprise, but transit has had even more difficulty because it has been in the unenviable position of being a declining industry for more than half a century. Low managerial pay and a low self-image often go together, and in the 1950s and 1960s the industry soldiered on, incapable for the most part of attracting and retaining the best people. Perhaps even worse, conservatism of approach is inherent in such declining situations; innovation is avoided and the practices of the past become embalmed in the actions of the present. The painful contraction of service and inevitable decline in the prestige of working in such an industry presents little that is attractive to new blood.

Unfortunately, even before the automotive revolution was under way, the transit industry had been seriously weakened by financial peccadillos, stock jobbing, unscrupulous promoters, and a host of other practices that left the viability of large segments of the transit industry in a financially embarrassed and weakened state. The skyrocketing cost increases of the World War I period and interest due on overinflated capitalization, together with limitations on the amount of fare that might be charged and other statutory obligations connected with operating franchises, led to the bankruptcy of a major portion of the transit industry by 1918.

Forced to meet the challenge of the automobile while much of it was in or near bankruptcy, the transit industry developed a strong and understandable concern with cost cutting. At the same time, vigor was diminished and in some quarters innovation suppressed because of the state of the industry. Some management talent and capital were available from the electrical utility industry, of which many transit firms were a part in the 1920s; however, declining ridership, which was due to the increasing availability of dependable automobiles at reasonable prices, cut revenues and made transit less and less attractive to the parent utility companies, especially after the start of the Great Depression. On top of that, the Holding Company Act of 1935 caused the divorce of many transit firms from their electric utility parents; this effectively diverted segments of the transit industry from major currents of managerial talent and removed many transit firms from any hope of receiving major transfusions of capital from their erstwhile parent firms.

In the wake of the pullout of electric utilities from the transit business, transit holding companies—some controlling a score or more properties—arrived on the scene

to fill the vacuum. Many of these holding companies were organized in conjunction with major motor bus equipment manufacturers and suppliers bent on the substitution of buses for streetcars in the transit industry. The focus of attention in this period was generally not one of great concern with the mass transportation consumer or with the development of consumer-oriented management. Rather, it was the superintendence of disinvestment in electric railways and mastering the art of operating buses as nearly like streetcars as possible. Even so, these firms did introduce some wise management practices and probably offered better management to small- and medium-size properties than might otherwise have been the case.

Perhaps even more of a problem in recruiting and retaining the type of management needed in transit was the fact that, since the 1920s, the industry had not been part of the conventional mainstream of American business, which tended to be dominated by growing national firms that required the services of large numbers of professionally trained, middle-management personnel. The challenges and rewards of working with a major national firm are substantial for persons of managerial talent. Transit firms, with the exceptions of a few giants in the largest cities, are relatively small enterprises, and the possibilities of promotion and economic reward appear to be slim to young people looking for a career with real opportunity. In addition, the financial weakness of the transit industry, especially since the end of World War II, has usually made it sadly uncompetitive in salaries. This is not to say that there are not many persons of real skill in the transit industry; there are. But these people generally stumbled into their positions; they did not arrive there as a result of careful recruitment or an early decision to seek out transit as an interesting and rewarding career area. In all truth, because of the lack of outside interest in transit, promoting from within has often been the only option open to the industry. Obviously, this cuts down the field of choice. Moreover, for a person of talent within the transit field, other industry is likely to beckon with higher pay and better working conditions. Transit management offers a stimulating career, but the work is carried out under public scrutiny, and there are strong political pressures. Burnout is not uncommon.

#### TRANSIT AND THE EXAMPLE OF THE MODERN BUSINESS FIRM

Since the 1960s, the interest of state, local, and federal governments toward public transportation improvements has enhanced the transit industry's importance. The industry is being asked to cope with the national need for improved mobility and overall quality of life and for reduced automobile use in order to protect the environment and cut the demands of transportation on potentially scarce energy resources. In short, there is a vital need to strengthen transit management and to bring transit into line with modern concepts of management in order for it to fulfill its traditional mission and to play properly new and important roles into which it has been cast.



There are lessons for the management of public transportation in the approach used by the modern business firm. A modern, well-managed firm will develop a strategic or long-range view and from that determine its goals—those ideal and broad ends it wishes to achieve. Such firms usually focus on carefully defined objectives (share of the market, return on sales, and the like) and the thoughtful manipulation of human and material resources to reach the objective. Marketing thus becomes a matter of major importance and a central part of the structure of the institution. The market is carefully researched and the pulse of the consumer is taken, not only to determine total demand but also to discover the particular mix of price and service that will appeal to given segments of the market. In the modern business firm, different varieties of product or service are tailor-made for different market segments, along with price and promotional activities aimed at different pocketbooks, life-styles, and viewpoints.

The canny modern firm, after getting a handle on the market potential, turns loose its production experts, product design engineers, and product development staff to see if it can profitably produce what it has determined the public wants. The physical supply and distribution staff smooth the flow and cut the costs of collecting the elements of production and, after the production process, of distributing goods to the market. The financial staff analyzes the potential profit of various products or services and seeks the funds to do the job from internal and external sources. Accountants, electronic data processing experts, and information system developers devise information systems and cost controls, both to provide for a flow of necessary information for management and to prevent waste and inefficiency. Promotion, sales, and advertising personnel work up competitive strategies and plan programs to bring the product to the attention of the public. If, after a careful and complete analysis is made, the firm can, indeed, produce a product or service and sell it in line with its objectives, the final decision will be made to go ahead. Much the same approach can be used in the management of public transportation enterprise.

There is an obvious need for a modern approach to transit management and a new breed of manager with a professional education in business, adept at applying a systematic approach to transit operations and marketing similar to that utilized by most modern business firms. The proper type of management for today's public transportation firm needs a far-sighted strategy and rational goals, and should concentrate on clear-cut, consumer-oriented objectives, organizing the firm to meet these objectives, and utilizing the marketing management concept as a means of turning transit into an industry responsive to consumers.

## GOAL SETTING

The value of striving toward defined goals is related to what Samuel Johnson found in the promise of being hanged in the morning—it does wonders in focusing the attention of the mind. What this means in practice is that transit managers and public officials must be specific about what transit is intended to accomplish. The organizational structure and the efforts of the transit property can then be tailored to help meet the goals. Underlying all is strategy, a long-run view. As an example, a transit property may plan to begin to build a rail system and expand it both radially and circumferentially over the years. The strategy aims at keeping transit competitive with the automobile and mindful of the changing demands of the community. Strategic planning must constantly monitor the situation and plans must be reviewed and updated regularly.

Transit objectives have to be precise and workable, not vague, general hopes. Simply "making transit service better" will not suffice. Goals must be concrete and sufficiently practical to enable them to be used in the process of setting realistic objectives, such as providing transit service to meet the needs of the bulk of the members of the community or bringing the operating deficit within reasonable bounds. Such goals can be reasonably translated into objectives.

The rule for formulating practical objectives demands that the goals be clear and definite, attainable, measurable, and reached by a given target date. A good example of such an objective would be "to provide transit service at least every 20 minutes during the major portion of the day, within two blocks of every residence in the city by January 1, 1995." Such an objective must, naturally, fit into the overall plans and goals for urban development within the city. Whole sets of detailed minor objectives and priorities may be established to help in achieving the principal objective.

A multiplicity of objectives of major and minor consequence are no impediment to the fulfillment of major objectives, as long as all the objectives are in concord with the primary thrust of action. A program of vehicle replacement to cut the average age of the transit fleet and reduce maintenance problems and costs would be in accord with the objectives of service on a dependable 20-min headway. On the other hand, the objectives of minimizing maintenance effort and maximizing reliability of service would clearly be in conflict with one another.

Private operators must, of course, focus on profit if they are to remain in business. In a narrow but certainly not improper sense, the private firm can conclude that it is on the right track if, over time, it is profitable. The publicly owned firm must have service as a primary goal; its clue to success in the short run will most likely be an increase in the number of riders. In the long run, the success of the public firm will be in its approach to the realization of the goals and objectives established for it, which most probably will have little or nothing to do with profit.

## THE BOARD OF DIRECTORS AND MANAGEMENT

The business of divining strategy, setting goals and objectives, and translating them into action involves interplay between transit management and those who govern the transit entity. This may be a board of directors of a transit authority or, where transit is operated as a city department, the governing body may be the city council. If transit is operated as a city utility, direction may come from a board of public works or a city utility board. Generally, in larger communities the governing body is most apt to be the board of a transit authority or a transit district, the latter usually having taxing authority. Where the governing board has duties embracing more than transit—a city council, for example—there is often conflict between allocating resources for transit and roads and streets or other public purposes. In other situations, as in the case of a board of works, transit may be only a small portion of the total responsibilities; there may be little time to devote to transit. In larger urban places the transit authority may be metropolitan in nature to cover the whole of the urbanized area. Whatever the particular arrangement, the directors of a publicly owned transit agency can be a source of aid or trouble for those engaged in the day-to-day management of the transit property. In situations where a board is trouble, it is usually because the directors or the management do not understand their proper role.

The proper function of directors is to work with the best input from management to understand the long-term environment and to develop a strategy to fit the environment, the needs of the community, and the health of the transit property. From the long-run strategic direction, the board works to set the broad goals of the organization, to provide policy guidelines, and, in conjunction with management, to help establish priorities and objectives. In a public enterprise the directors are representatives of the public; in some cases the directors may be elected, and in other instances they may be chosen by elected officials. The chairman of the modern transit board of directors usually has the chores of keeping political fences well mended and, in company with the other directors and elected officials, of seeing to it that the general thrust of mass transportation is in line with the overall goals and objectives of the municipality served.

Directors should, of course, be concerned with the overall direction in which the transit agency is moving; indeed, they should help set that direction. They should also be involved in helping to obtain and to allocate, in a general way, resources for public transportation. However, directors should not be involved in detailed resource allocation any more than they should be involved in day-to-day management.

Where directors do not understand their proper role, they are likely to hinder the day-to-day affairs of operating transit. Interference in management prerogatives by directors can demolish managerial morale, especially when directors insist on having their way in matters that are unsafe, unwise, or uneconomical or may cause managerial performance to appear unprofessional. Directors have been known to attempt to write schedules, force transit routes into hopeless territories, serve favored shopping centers, order special services, and even commandeer vehicles for private use. Insisting on schedules, routes, and services that are not warranted is probably the worst offense.

One problem that appeared in the switchover of transit from private to public enterprise is the evolution of the board of directors. In the initial stages of public ownership, strong and active members of the community—the so-called "movers and shakers"—apparently can be attracted to serve. Once the enterprise is on its feet, the movers and shakers tend to move on to other undertakings of a more challenging nature; over time, more political individuals or weaker persons with less stature in the community may become directors. It is often at this stage that management is most bothered; being unsure of their role, later generations of directors often meddle in the business of day-to-day management. On occasion, directors will act to raise their political visibility in order to help propel a public career. Part of the problem is simply that the directors must learn what their job really is. It takes time for directors to develop knowledge of transit. For this reason, perhaps the tenure of office should be rather lengthy with staggered terms, with the more senior directors the only ones eligible for the position of chairperson. Above all, of course, those who name directors must choose wisely, animated by the spirit of what is best for the community rather than as a political reward or a place for a designee to gain or increase visibility.

## CONSUMER BEHAVIOR

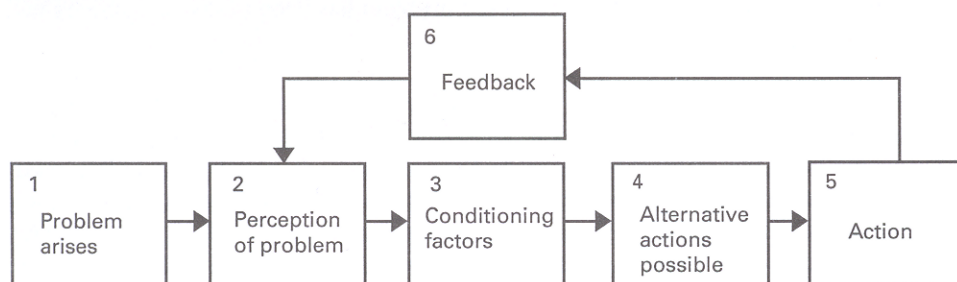
Regardless of whether a transit service is publicly or privately owned, the key to effective goal setting in transit today has to be consumer orientation. This is so because it is not likely that any city would choose to force its citizens to use transit.

However, in these days of concern with strangling traffic congestion, pollution of the environment, and possible shortage of energy, it is appropriate for local government, perhaps at the behest of state and national government, to apply incentives to encourage the use of public transportation, along with disincentives to help discourage use of the private automobile. Public and private partnerships to reduce vehicle miles of travel in urban areas by providing, for instance, low transit fares and a surtax on parking may become common features of U.S. urban life. In any event, the public cannot be expected to utilize transit merely as an expression of civic concern; there must be rewards or real value for the consumer if transit is to attract patronage.

Successful transit operation is mainly a function of marketing, in the broadest sense of the term, as it relates to consumers and potential consumers of transit service. Specific goals will differ from place to place, as will the organizational structure needed to meet the goals; in all cases, however, it is necessary that the goals, objectives, organization, and action be grounded in an understanding of consumer behavior and translation of that understanding into appropriate marketing effort.

It may not appear, at first blush, that consumers act rationally. However, there is both motivation and logic behind consumers' actions, no matter how erratic it may

appear to the outside observer. The point is illustrated in the simple model of consumer behavior illustrated in Fig. 16-1. The elements of the model are as follows:



**Figure 16-1** Simple model of consumer behavior. [Source: George M. Smerk, "Mass Transit Management," *Business Horizons*, 14, no. 6 (December 1971), 11.]

1. *A problem arises.* Behavior is problem solving in nature; consumers will act to solve their problems through purchase and/or use of a product or service.
2. *Perception.* The realization that there is a problem and the nature of that problem is communicated to the brain by the senses. Which of many problems facing the consumer that will have priority is selected at this point.
3. *Conditioning.* Conditioning covers the factors that act as a filter or a preprogramming of consumers' attitudes and approaches to the problem they perceive. Some of these are biological; an example would be a consumer's physical capabilities, such as the need to climb high steps. The most important of the conditioning factors are imposed by society. For example, natives or longtime residents of the United States would be affected and conditioned by Western civilization in general. More specifically, they would be affected by the society of the nation as a whole and the region in which they live, together with the general class in those regions of which they are a part. Also important are the immediate groups of which they are members and the groups with which they identify and which they attempt to copy. All human beings grow hungry, but in the United States hungry persons would be unlikely to eat candied ants or grasshopper in cream sauce as a supper repast at 3 o'clock, nor would they eat their breakfast cornflakes and milk with their fingers. Nature may tell us that we are hungry, but our society determines what we will eat and when and how it will be consumed.
4. *Alternatives.* Consumers must evaluate and select among the various alternatives that are open, acceptable, and known to them. It should be understood that, to the consumer, an option that is unknown does not exist in any meaningful way. In deciding among alternatives, consumers perform rough mental calculations of the time, effort, and money that must be expended on each of the alternatives.
5. *Action.* Consumers act in accordance with the acceptable alternative that meets whatever constraints they face in terms of time, effort, and money. In short, consumers usually will choose the least "costly" acceptable available alternative.

6. *Feedback.* Feedback is the means by which consumers determine whether or not their problems have been solved by the choices they have made and the actions they have taken. If not satisfied that the problem has been solved, consumers will select alternatives.

For transit management that is trying to attract more patronage, perhaps the most fertile fields for imaginative and useful marketing work are the conditioning factors in conjunction with the alternatives open to the consumer. For example, management might take action in a program that would attempt to affect conditioning so that mass transportation was accepted by an increasing number of sectors of society. To carry this out, objectives and policies should be shaped with improvements of transit's image and acceptability by the public kept in mind. The image of transit as a service for the losers of society has to be changed, or those who identify with winners will not be attracted. By means of good, reliable transit performance, along with careful advertising and community relations work, a more positive attitude toward mass transportation may be developed among consumers and potential consumers.

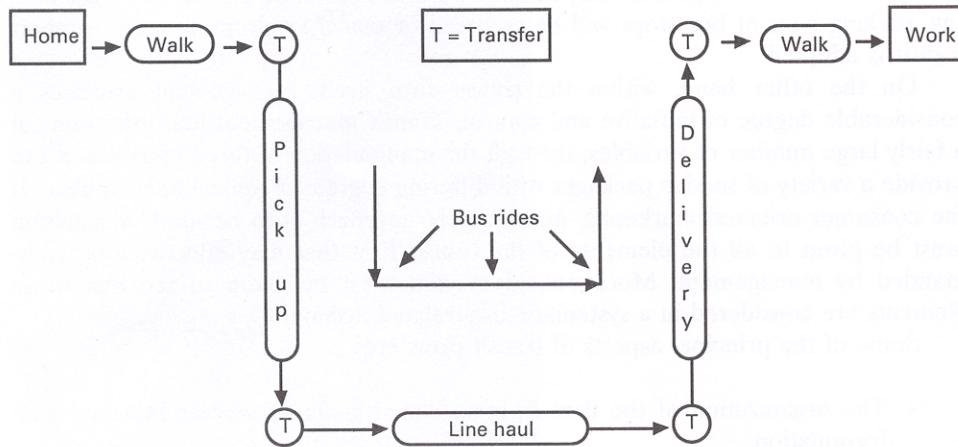
Promotion of transit as a reasonable alternative to the private automobile is one approach that might be taken in the marketing area. Apart from social stigmas that may be attached to transit, it is fair to say that transit is usually not considered to be an adequate substitute for the automobile. In light of the behavioral model discussed earlier, transit may be more expensive in time, effort, and money than the private automobile. Transit may also be *perceived* as more time and energy consuming and more costly in pecuniary terms even if, in reality, it is not. Consumers will, of course, behave in terms of what they believe to be true.

Under these circumstances, the proper marketing ploy for management is to take steps to reduce the actual and perceived time, effort, and money costs of transit. To effect a real reduction of time and effort, careful rethinking and restructuring of transit routes and schedules are needed. It might also mean fare reduction or restructuring of fares to make the price—service package attractive to consumers. Figure 16-2 provides a graphic presentation of a "walk-ride-walk" home to work trip and possible sites of the cost involved. Assuming that the fare for a transit ride is lower in money cost than the total cost of using an automobile, it is still important to cut other costs. Lengthy walks to transit stops, long running time of vehicles, unattractive equipment or facilities, inconvenient transfers, and grumpy employees all add to the cost of energy and time needed by transit consumers. By reviewing all the segments of a trip, management can make cost reductions where needed; for instance, better coordination of schedules may cut transfer time drastically. Better integration of routes may reduce the need for transit patrons to transfer between routes.

Fare reductions may appear to be the easiest way of making transit more attractive, since it is a direct and obvious action. Even so, the traveling public may not be convinced that transit is much of a bargain if travel time is lengthy. Cutting down on travel time and the other impediments to consumer attraction is not easy. For example, most transit managers—except on grade-separated rapid transit systems—have little or no control over the right-of-way their vehicles must utilize. The typical street



shared by automobiles, trucks, transit vehicles, and pedestrians offers many opportunities for delay to the transit service. In such a situation, reserved transit lanes are necessary to speed the movement of transit vehicles.



Time Cost	Walk from home	Transfer to pick up	Pick up	Transfer to line haul	Line haul	Transfer to delivery	Delivery	Transfer to walk	Walk to work
Energy cost	Walk from home	Transfer to pick up	Pick up	Transfer to line haul	Line haul	Transfer to delivery	Delivery	Transfer to walk	Walk to work
Money cost	Walk from home	Transfer to pick up	Pick up	Transfer to line haul	Line haul	Transfer to delivery	Delivery	Transfer to walk	Walk to work

Figure 16-2 Journey analysis: time, energy, and money cost.

If the general national impression of transit is largely negative, image improvement will need far more than mere cosmetic treatment. Overcoming a bad image is probably a tougher job than creating a new public impression from scratch. The real proof of the pudding lies in the quality of the service-price package that is offered to the public. This can be helped along by careful use of media and personal contact.

## ENVIRONMENTS OF THE TRANSIT MANAGER

Transit managers operate within several environments; some of these are not within their control. As an example, the manager of a given transit property must, by

and large, live with national and state situations much as they are found. Any real impact on the national environment will probably be slight, although all managers have a right and a duty to inform federal elected and appointed officials of their ideas, needs, and interests. Over time, and in concert with other transit managers, they are more likely to have some impact on state policy, but it will probably not be easy or immediate. The general local situation is also somewhat out of their control, but not totally so. Transit management may be able to work with public officials to ensure that, say, parking bans at bus stops will be enforced or that a local option tax to support transit is adopted.

On the other hand, within the transit firm itself, management exercises a considerable degree of initiative and control. Transit management holds the reins of a fairly large number of variables; through the manipulation of those variables, it can provide a variety of service packages with differing degrees of appeal to the public. If the consumer-oriented marketing—management approach is to be used, recognition must be given to all the elements of the transit firm that may effectively be commanded by management. Moreover, great care must be taken to see that those elements are considered in a systematic interrelated fashion.

Some of the principal aspects of transit firms are:

- The organization of the firm to meet stated goals, as well as input on goal formulation.
- The information collected by the firm and how it is used for management purposes, including accounting and ridership data and other information needed for effective managerial control, reporting to regulatory or control bodies, financial records, and decision making.
- The personnel selected by the firm, how it is recruited and trained, and the methods used in the supervision of personnel and negotiation with organized labor.
- The selection of equipment.
- The maintenance program for equipment and facilities.
- Routing.
- Schedules.
- Communication and control for efficient, effective, and dependable operation, especially between operators and supervisors.
- The overall marketing program.
- The advertising program.
- Studies of potential improved, expanded, or specialized services.
- The public information program, including maps, schedules, and information signs and graphics.
- Community relations programs.

In keeping with the operations-oriented philosophy, the organization chart of the typical transit firm naturally treats operations as the central function with maintenance, clerical work, and administration functions as adjuncts. Marketing is and has been



largely neglected in most transit firms. It is not unusual in transit to mistake an advertising program for a real marketing program. If a transit organization is to be geared to carry out the objectives of a truly consumer oriented service, marketing must be the core element about which the organization structure is built. A modern organization structure for transit is illustrated in Fig. 16-3.

In examining Fig. 16-3, it should be recognized that this is a functional organization chart, showing tasks to be performed—not a detailed chart that provides slots for individuals. "Marketing and operations" covers the various jobs related to planning, selling, and running the service. "Information and financial services" includes the office and accounting functions, as well as the gathering of statistics for managerial decision-making, reporting, and planning purposes. "General services" involves the hardware and personnel functions, safety, servicing and maintenance of equipment and facilities, and the purchasing and control of supplies. The precise details of an organization and the number of positions would naturally depend upon the size of the transit property and the degree of specialization possible with a larger firm.

### THE MARKETING PROGRAM

Marketing is far more than a stepped-up sales effort. The marketing program of a transit firm must be positively directed to the task of discovering opportunities to serve the public. A private firm will, of course, analyze the results of its services and continue those operations that, in the long run, appear to be most profitable. The publicly owned firm should continue to offer certain needed and desired services, regardless of their profitability, within the context of its stated objectives. At the same time, the publicly owned firm should take steps to increase patronage and revenues so that income is maximized to the greatest extent possible without causing the service to suffer. Obviously, the greater the income, the better the overall level of service that might be provided.

A transit property must adopt a marketing strategy that is appropriate to its situation in a competitive transportation market. Since resources are inevitably limited, to avoid waste, the marketing effort must be focused as finely as possible. The best scheme is to direct the marketing effort toward particular segments of the overall market, rather than to try to reach everyone at the same time. In addition to meeting the needs of obvious patronage groups, marketing should direct a careful promotional effort toward those nonusers who can reasonably be judged as potential transit riders.

One truism: the market for public transportation does not consist of a homogeneous mass of consumers. A single-service approach will not suffice in a real, heterogeneous market because the market is divided into segments of consumers with different needs and desires that require different packages of service. This is addressed more completely in Chap. 17. The market segment, in strategic terms, is the smallest unit for which it is worth tailoring a separate marketing program. The concept of the marketing

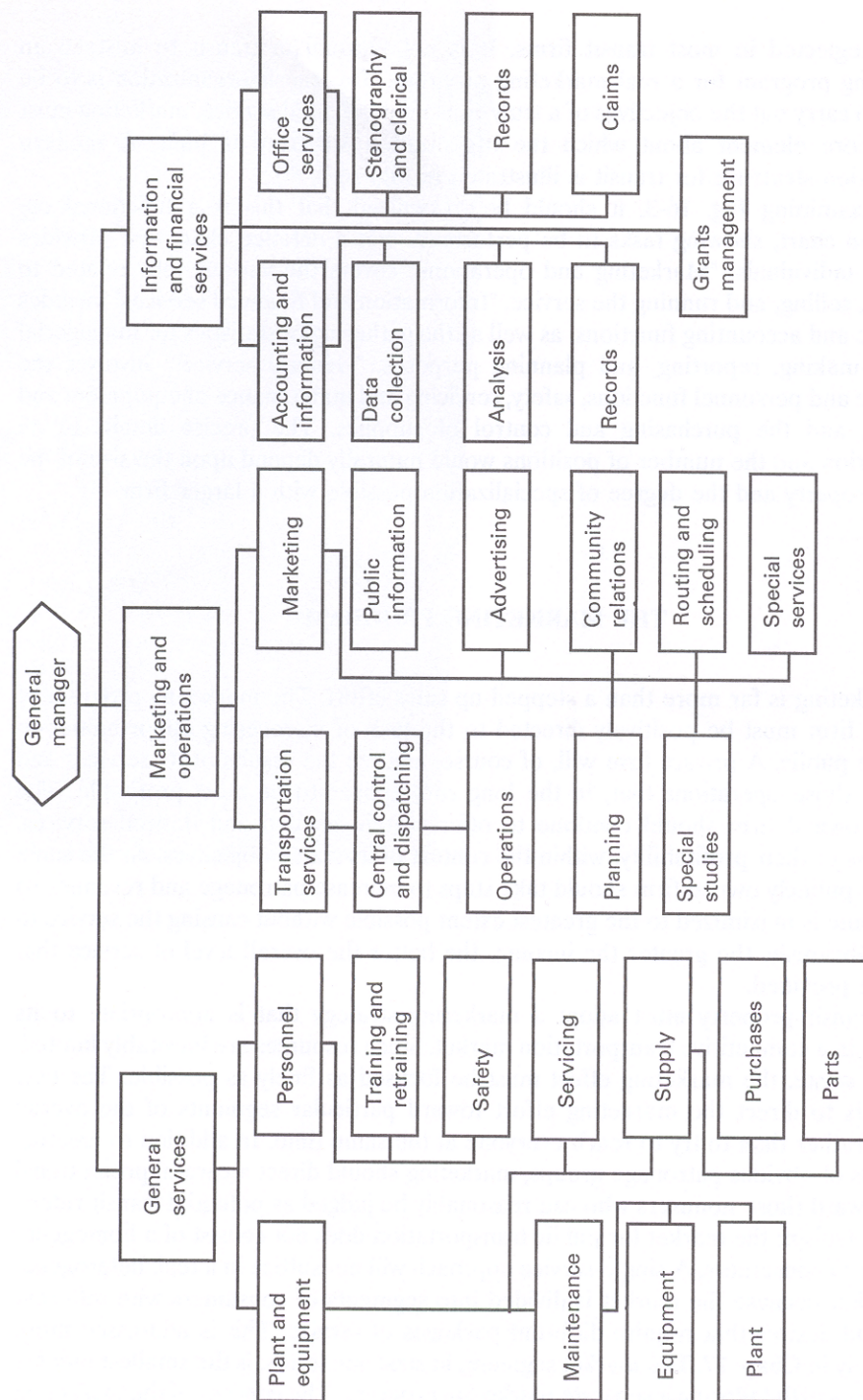


Figure 16-3 Functional organization for mass transportation. [Source: Adapted from George M. Smerk, "Mass Transit Management," *Business Horizons*, 14, no. 6 (December 1971), 13.]

mix is useful in dealing with the segments of the transit market. It includes the product, price, and promotion, and transit managers must try to reach the various segments they hope to influence with various combinations of these elements. The job of the transit marketer is to pick out the worthwhile segments from the mass of travel demand and discover means to serve those for which transit can play an effective and useful role.

A true marketing effort must be based on careful market research. Management must come to know and understand the communities they serve, and that understanding must be based on factual information. Some of the market research will use material gathered by others, such as census data and planning studies. Record keeping and survey research conducted by the transit property will provide material to be sifted, analyzed, and used as the basis of judgment for marketing and other decisions.

Probably the most natural and easy approach to marketing transit is to appeal initially, through a general service offering, to the most accessible segments of the market. In the first stages of the marketing program, these would probably consist of those patrons without an alternative means of travel regularly available to them. The early work would involve approaches pointed at the improvement of the quality of transit service and upgrading the status and general image of mass transportation.

Through concentration on reliability, convenience, comfort, value for money, speed, and other quality factors, the initially served segments should be held and used as a base upon which to build the transit market. Quality improvements and higher standards of service should be promoted through relevant media. Over time, word-of-mouth comments by satisfied customers will help to reinforce and strengthen the transit image. After the potentials of the initial segments are tapped, the next best segment should be sought, held, and so on. Figure 16-4 illustrates the procedure.

The service should be directed toward reducing the time, energy, and money cost of travel and at improving public acceptance. This may be achieved by emphasizing reliable, on-time performance, new and comfortable equipment, service directed to meet consumer needs, and reasonable prices. Once patrons have become accustomed to the service offering, market research should be utilized to derive a cross section of who is using the service. Next, further research into the market should be utilized to determine who is not using transit and the reason for the nonuse. Certain additional segments may be revealed that have promise if some slight adjustment is made to the marketing mix. For example, offering fast express bus service from the outskirts of the city or suburbs to the downtown area may prove to be attractive to those currently using automobiles. Reverse commuting by central city residents to suburban work sites may offer other service opportunities.

Some segments will be ruled out as inaccessible to transit. The salesperson who must carry bulky sample cases on his or her visits to customers is an example; shoppers lugging home two-weeks' worth of groceries is another. Given limited resources, only those segments large enough and accessible enough to warrant cultivation should be pursued.



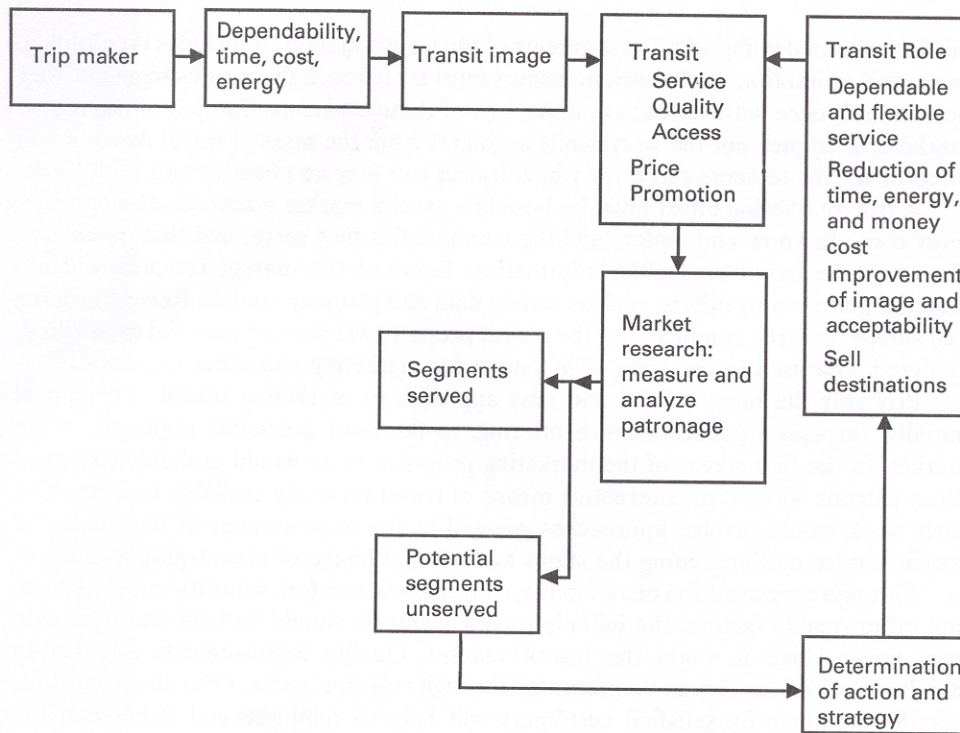


Figure 16-4 Market segmentation model.

## THE MARKETING MIX

The concept of the marketing mix, as adopted from consumer product industries, is a key element in the process of tapping and holding a given segment of a transit market. The mix consists of all product, price, and promotion activities under the control of management that may be varied to meet the needs of the different transit market segments.

### THE PRODUCT

In transit, the first element of the marketing mix—the product—includes the types of service, the quality of service, and the customer's access to it. Transit service types may be divided into the categories of regular route and special services. In regular-route service, the configuration of the routes and time schedules are the principal variables. Special services are those not following regular routes; they may be offered to a sporting event or to particular points for special affairs. Subscription services

offering customers curb-to-curb transit service on a monthly basis would also fall into this category. Dial-a-ride—a form of demand-responsive service—is a flexible, curb-to-curb type of service that increases the number of options available to management in serving various market segments where regular service would not meet the needs.

The quality of the service is also important in the product element of the mix. Such factors as air-conditioned equipment, comfortable seating, cheerful decor, reliability, shelters for waiting passengers, courtesy of personnel, transfer requirements, travel time, and distance from origin or destination point to the transit route are all important. Subscription bus service or demand-responsive bus service, both previously mentioned, are other ways of improving access. The latter service is initiated by a telephone call from the consumer, and the bus is dispatched to the consumer by means of two-way radio; the buses travel an irregular route connecting the origin and destination points of several consumers as directly as possible.

## PRICING

Pricing is the second major ingredient in the mix. It cannot be considered in total isolation from the rest of the package of product and promotion. It is a matter of providing value for money. Poor service, regardless of price, is still poor service and may not even yield value for money at a substandard fare. High-quality service is far more likely to be perceived as giving good value even at a relatively high price.

How the fare is collected is an integral part of the price. Monthly passes typically provide a discount and offer the convenience of not having to bother finding change. Electronic farecards, tickets, tokens, and transfers are all means of collecting a fare or allowing for a continuing journey. The process must be made as easy as possible and different fare arrangements must be considered and implemented for each segment.

## PROMOTION

Promotion is the third part of the mix. It includes advertising in various media, ranging from radio and television through newspapers and circulars. Promotion also includes public information such as maps, schedules, and graphics to inform the public of the service and how to use it. Community relations are also part of the promotional package; this is the process of both meeting directly with the public and keeping the public informed of transit activities. Community relations should be a two-way street of communication and feedback; it is another way that management can find out how the public feels about the service and what the public wishes to have in the way of service changes and improvements. The various means of promotion should be brought into play to inform the public of what is offered and to help build an image of vigor and interest in meeting public needs.

The concept of market segmentation and the marketing mix can be joined together in an operational program.<sup>1</sup> Five customer segments are selected for consideration, and a profile of each of them is developed, as shown in Table 16-1. It is not intended to

be definitive, but it does provide a way of thinking about transit marketing and market segmentation. The groups selected include manager/professional, clerical or office workers, inner city, elderly, and suburban housewife. Each segment appears to be large enough to make the efforts of a transit company to attract patronage worthwhile economically. The chosen requirements also provide a cross section of users who have different destinations and different needs and who receive a different mix of benefits from the service.

The manager/professional segment includes persons in the higher-income brackets, who probably tend to place a higher value on their time; travel time and quick and easy access to the service are more important to this segment than are some of the other factors, as shown in the benefits section of Table 16-1. This segment of the market should be appealed to mainly with service improvements rather than with cost savings.

The clerical segment is similar in many ways to the manager/professional segment; the major difference is the lower income level and the increased importance of cost savings as a factor of appeal. Both the manager/professional and clerical segments need transportation between suburban areas and the central city.

Inner-city residents require a different transit service because they not only have travel patterns related to movement within the central city but also between central-city residences and outlying job locations in the suburbs. The need for dependable, low-cost mass transportation service is highly important to the inner-city segment, since many in this group are in the low-income bracket and do not own automobiles. Travel-time savings and ease of access are probably of lesser importance to this segment because of its relative dependence upon transit.

The elderly make up another segment. This is already a large portion of the population and one that is growing rapidly in the United States as life spans slowly increase. Since most persons considered as elderly are retired, their transit needs are not for the journey to work, which is of major importance to the manager/professional, clerical, and inner-city segments. Rather, the elderly are looking for service that will provide mobility for shopping, personal business, and medical visits. Cost savings and accessibility are apt to rank very highly in the list of transit factors, with time savings and travel time of less importance.

The final customer segment is that of the suburban housewife. This segment resembles the manager/professional group in income and car ownership, although travel probably takes place most often during the off-peak times of the day. This is a tough segment to attract to transit because of relatively high income and automobile ownership.

Table 16-1 analyzes the five segments in terms of the benefits that each might receive from transit, the trip purpose, geography (in the sense of origin and destination points), the frequency of use, and the time of the transit trip, plus certain demographic factors.

**TABLE 16-1**  
**Profiles of Existing and Potential Customers**

Segmentation Base	Customer Segment				
	Manager/ Professional	Clerical	Inner City	Elderly	Suburban Housewife
Benefits <sup>a</sup>					
Travel-time savings	H	H	M	L	M
Dependability	M	M	H	M	M
Cost savings	L	M	H	H	L
Accessibility	H	H	L	H	H
Travel-time options	H	H	M	M	M
Purpose of trip <sup>b</sup>	Work/ Recreation	Work/ shopping	Work/ shopping	Work/ medical	Work/ recreation
Geography <sup>c</sup>					
Origin	Suburb/CC	SuburbCC	CC	CC	Suburb
Destination	CBD	CBD	Suburb	CC/CBD	Suburb
Weekly use— potential freq.	Heavy (5+ trips)	Heavy (5+ trips)	Medium (2-4 trips)	Light (1 trip)	Nonuser (0 trips)
Usage timed	Peak	Peak	Peak	off-peak	Off-peak
Demographic <sup>d</sup>					
Income (in thousands)	\$15-20	\$7-9	\$3-5	\$3-6	\$12-16
Age	35-54	25-34	35-64	65+	35-54
Years of education	13-16	12-15	8-12	5-12	13-16
Availability of car	Yes	Yes	No	No	Yes

<sup>a</sup>Travel-time savings—the reduction in the amount of time required for the user to travel from origin to destination.

Dependability—the increase in the likelihood that the user's expected departure and arrival times coincide with the actual service provided.

Cost savings—the monetary savings to the user from using transit service.

Accessibility—the minimization of user effort required in getting to and from the transit stations.

Travel-time options—the number of alternative travel times available to the user for a given transit trip.

Level of importance: H = high; M = medium; L = low.

<sup>b</sup>Refers to primary trip of each customer segment.

<sup>c</sup>CC = urban area other than central business district; CBD = central business district.

<sup>d</sup>Peak = 7:30 to 9:30 a.m. and 4:30 to 6:30 p.m.; off-peak = 9:30 a.m. to 4:30 p.m. and 6:30 p.m. to 5:30 a.m.

<sup>e</sup>Based on 1970 U.S. *Census of Population*.

Source: Adapted from Norman Kangun and William A. Staples, "Selling Urban Transit," *Business Horizons*, 18, no. 1 (February 1975), 61.

In Table 16-2 the marketing strategy is laid out in a summary format. Here the marketing mix elements are shown with the variations necessary to serve each of the segments. Contrast the service mix elements for each of the segments, for example, on the item of the characteristics of the vehicles. The manager/professional segment, which will most likely be attracted by service quality, should be wooed by a standard bus that is fitted with a fairly plush interior, including carpet, to lend a bit of eye appeal. Less fancy standard buses (probably air conditioned in this day and age) are supplied for the clerical and inner-city segments of the market. To meet the needs of the elderly and suburban housewife segments, small buses or vans are indicated for a demand-responsive or dial-a-ride service.

Again, the coverage of the services offered to the manager/professional, clerical, and inner-city segments is for the total metropolitan area; the elderly segment is offered a service that covers selected central-city locations, while the suburban housewife is offered a service to selected suburban locations.

In the area of pricing, note that the manager/professional and clerical segments are expected to pay full fare, while discount or promotional fares are offered the other segments, reflecting both the lower income of many inner-city and elderly persons and the difficulty of attracting the suburban housewife away from the automobile.

In the matter of promotion, the benefits of the service are stressed for the manager/professional segment; low price—as well as other factors—is stressed for clerical, inner-city, and elderly segments; and flexibility is stressed for the elderly and suburban housewife segments. The media utilized are also varied for each segment, as is the type of transit information offered.

The plan of attack outlined in the tables is not expected to be the be-all and end-all. However, it does provide a conceptual picture of the starting point in developing a marketing strategy and in putting together different parts of the marketing mix in an operational fashion. In other words, transit management can use this approach to focus on the segments named, or other segments of its choosing (for example, students), and lay out an operating plan. Based on this, a transit firm could make an initial offering of service. Then the process described graphically in Fig. 16-4 should be implemented; that is, research should be aimed at determining if the desired segments were being reached. Various parts of the operational strategy laid out in Table 16-2 could then be tinkered with in order to improve performance.

### THE COMPLETE MANAGER

While much time and effort must be devoted to the marketing of mass transportation if modern business management methods are to be adapted to the transit industry, other aspects of management also require major attention.



**TABLE 16-2**  
Conceptual Format for Marketing Strategies

Marketing Mix Element	Customer Segment				
	Manager/ Professional	Clerical	Inner City	Elderly	Suburban Housewife
Service					
Vehicle Standard capacity characteristics	(40-60); carpeted; air-conditioned	Standard capacity	Standard Capacity	Bus/van capacity (10-25); Carpeted; air-conditioned	Bus/van capacity
Routes	Fixed	Fixed	Fixed	Variable	Variable
Hours	6 a.m.-7 p.m.	6 a.m.-7 p.m.	6 a.m.-7 p.m.	9 a.m.-9 p.m.	9 a.m.-9 p.m.
Direct/transfer	Direct	Primarily direct except at major interchange points	Transfer	Direct	Primarily direct, except with inter- zone transfer
Arr./depar. times	Fixed	Fixed	Fixed	Flexible	Flexible
Interval time/rte.	Peak: 3/hour	Peak: 3/hour	Peak: 2/hour	2/hour	2/hour
Coverage	Total metropolitan area	Total metropolitan area	Total metropolitan area	Select central city locations	Selected suburban locations
Shelter/station density					
Origin	High	High	Moderate	Low	Low
Destination	Moderate	Moderate	Moderate	Low	Low
Station parking	Some	Limited	Unnecessary	Unnecessary	Unnecessary
Pricing					
Fares	Full	Full	Discount	Discount	Discount
Vol. Discounts	Yes	Yes	No	No	No
Promotion					
Theme	Service benefits, work activities	Service, low price, socializing	Low price, dependability	Time flexibility, low price, socializing	Time/trip flexibility, reduced auto use
Media	Spot TV, local radio, business papers	Spot TV, local radio direct mail	Local radio	Direct mail, spot TV	Spot TV, local radio, suburban newspapers
Transit	Central metro. Area information center	Multiple ticket location	Mobile information centers	Special operator	Special operator

Source: Adapted from Norman Kangun and William A. Staples, "Selling Urban Transit," Business Horizons, 18, no. 1 (February 1975), 63.

## HUMAN RESOURCES

Personnel and labor relations are a prime problem area in transit. Over a large part of the mid-twentieth century, much of the mass transportation industry of the United States was not always able to attract the best human resources. The transit industry's long decline, especially after World War II, made it difficult to attract or retain as many first-rate people for management and nonmanagement positions as would otherwise be the case. Highly qualified, well-educated, well-trained, and highly skilled people do not gravitate to what is perceived as a dying industry. Until the late 1960s, careful recruiting was virtually unknown. In part this was simply because the industry was shrinking and there was not the need to cast wide the recruiting nets.

No management job is easy, and it was particularly difficult in mass transit as the industry shifted from the private sector to the public sector. Managers must work in the goldfish bowl environment of a public enterprise. Political pressures increase, public transit governing board members are often unknowledgeable and difficult to work with, labor unions create the typical adversary relationship in many cases, and the pay in the public sector is typically lower than in the private sector for the same degree of managerial responsibility. Those factors, coupled with the constant search for money that especially typified transit in the 1980s, make the likelihood for managerial burnout high. Turnover of management is the result. For this reason there is fairly rapid advancement among managers, especially in the smaller transit properties. Transit management offers a high degree of challenge and responsibility and fairly fast advancement, often without much opportunity for sufficient seasoning. There may be insufficient time to hone necessary skills and develop the political savvy demanded of top managers. Even so, many top-quality people have entered the ranks of transit management attracted by the many challenges and the rewarding feeling that comes with the knowledge of a difficult task well done.

Historically, most management employees generally started at the bottom and rose through the ranks in the transit industry. The exception was in the heyday of the electric streetcars around the turn of the century and up to about 1940, when college educated electrical engineers, along with some civil and mechanical engineers, joined the management team of many transit systems in high-level positions. As the electric railways were abandoned, the need for new engineers slacked off and disappeared except in the largest city rail systems. For the 1950s and 1960s, management most commonly came from internal promotion of operating employees. With the renaissance of transit in the late 1960s and 1970s, there was increased demand for management personnel. The new crop of managers came from people with a background in business, planning, and public administration, and some were engineers in the new rail systems. For the most part, this new crop of managers had little or no transit experience, save perhaps as passengers.

Operating positions in transit are often unattractive because of the working conditions that may involve early and late hours of work, long working days with split shifts because of the peaked nature of demand, and the need for significant seniority before attractive working days and hours are assigned. In large cities many transit

operations cover crime-ridden and drug-infested neighborhoods; fear is often the companion of transit operating employees. There is stress from operating under difficult conditions in dangerous places and pressure to operate on a schedule. Bus drivers face the stress shared by all who operate in heavy traffic, with the added strain caused by handling a large vehicle. Many of the older operating facilities lack creature comforts. In some of the older rail systems, the shop facilities are sometimes primitive and, perhaps, even dangerous. In short, transit is a tough job in many places, and there are equivalent jobs that pay well, have decent working hours, and offer less stressful working conditions. Although the pay of transit workers today is often relatively high, even that may not make a difficult job appealing to many potential employees.

Added to the problems of the working conditions in transit is the diminishing work force available in the United States because of the low national birth rate in the wake of the post-World War II baby boom. There are fewer people entering the work force and an increased demand for their services. This makes the job of recruiting transit human resources difficult at best. It means that the work force in transit has to be more productive through labor-saving capital investments and training to use more sophisticated and productive equipment and techniques.

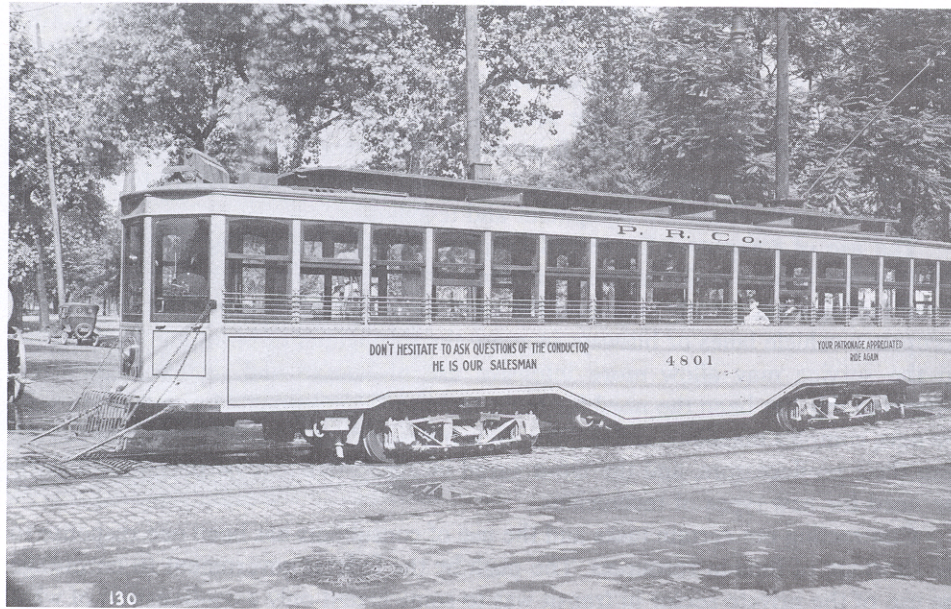
The use of computers for record keeping, payrolls, and management of various activities has been a major means of making employees more productive. Investment in rail facilities has greatly increased the capacity of certain corridors of travel. High- occupancy-vehicle lanes or busways increase the throughput of buses and by speeding up the service may allow more intensive use of human and material resources. Balancing this has been the need for more technically sophisticated personnel to tend the new, complex machines and devices. New buses and rail cars are more complicated than their predecessors, and the labor saved in operations may be partially offset by the need for new types of technicians.

Contracting out certain tasks and the use of consultants has been one response to the shortage of human resources. The push by the federal government to encourage the use of the private sector in transit was to some extent only a continuation of what the transit industry was already doing. Rather than hire full-time personnel, for years transit agencies around the nation were competitively bidding out a range of tasks from money counting and engine and motor rebuilding to marketing studies and vehicle and facilities cleaning.

In a fair number of cities, professional contract management companies have been hired to manage the transit property. Typically, such firms assign one or more of their employees as the resident management team; the local team then can draw upon a central office staff for special expertise in areas such as labor negotiations, maintenance facility design, or market research. Contract management often brings a higher caliber of management and a larger package of skills and experience than would be possible with strictly local management. Indeed, contract management firms, faced by the competitive imperative of contract renewal, often are better practitioners of modern business practice than strictly local management would be in the medium and small cities that are the major market for contract management.



Once the desired people have been hired, careful training must be provided. This has to go beyond just how to operate or maintain vehicles. Rank-and-file personnel need an understanding of the overall direction in which the transit agency is moving, and the importance of the individual employee to the success of the enterprise must be stressed. The careful evaluation of the required tasks and the development of job descriptions will reveal the demands on the employees working in each function. Training and retaining of employees in relevant skills will follow. With changes in technology, such as the introduction of electronics to formerly all-mechanical devices, employees must be upgraded to tackle the new means of performing a task.



**Figure 16-5** Early sales and courtesy marketing—Pittsburgh Railways Co. (courtesy of American Public Transit Association)

The operators of vehicles are especially important since they are virtually the only transit personnel who come in contact with the public; in a very real way, they are the salespersons of the mass transportation industry. They *are* the transit system to much of the public. Operators and others who deal directly with the public must be carefully trained in the sales function as well as operations. A good personnel program includes issuing job standards, monitoring job performance, and retraining personnel as necessary. Some transit properties employ quality control officers to make sure that the jobs are being performed to the established standards.

Radio has revolutionized supervision by allowing superior coverage of a transit system with the same or a smaller number of supervisory personnel. Supervisors and dispatchers may be in direct radio contact with any vehicle or train in systems so

equipped. Supervisors in radio-equipped vehicles may cover more territory and respond more quickly to calls for help. Television monitoring of stations and other facilities has helped transit security forces to do a better job with smaller staffs and has enhanced public safety. The latest electronic vehicle monitoring and locating systems allow a vehicle's location to be pinpointed; some systems also allow vehicle diagnostics to be performed and routinely monitored while the vehicle is in service. It is also possible to automatically count the number of passengers aboard a bus or other transit vehicle. On-off counts, which typically require a large staff input, may now be carried out on a large-scale basis with a minimum of personnel involved.

Good personnel relations, which include programs of benefits and sincere and honest dealing with employees and their problems, are probably the best way to prevent labor difficulties in public transportation. Moreover, transit agencies receiving federal aid are covered by the provisions of Section 13(c) of the Urban Mass Transportation Act of 1964, as amended. Under Section 13(c), labor must be made no worse off as a result of a federal grant than it was before the grant was made. Because the local union, in effect, is one of the parties who must sign off on the application for these federal funds, good management—labor relations are a necessity; grants may otherwise be jeopardized by refusal of the local union to give its acquiescence.

The transit industry was not spared from the epidemic of substance abuse that struck the United States beginning in the 1960s. All strata of American society were affected by drugs, a plague that appeared more serious and dangerous than the more traditional problem of alcohol abuse. Clearly, operating public passenger vehicles with a work force impeded by drugs was unacceptable. Management response beginning in the 1970s was to begin drug testing for cause. Typically, operating employees were tested for drugs as part of a routine physical examination, but also as a result of involvement in an accident or signs of aberrant behavior. Random drug testing, without any cause, became a controversial issue in the 1980s and one that appears to raise serious constitutional issues. Management also established employee assistance programs (EAPs), often in conjunction with the unions representing employees. EAPs sought to help employees recover from drug and alcohol problems, as well as stress and financial and domestic problems that might affect job performance and safety.

Compounding managerial problems with human resources were changes in the work ethic and the consistency of the work force. Older generations of transit workers had accustomed themselves to the often difficult operating environment and the quasi-military discipline imposed upon them by the transit industry. This was a discipline and managerial style not unlike that military-type model that the railroads had developed in the mid-nineteenth century to manage a dispersed work force that was impossible to supervise closely, as would be the workers in a store, shop, factory, or office. Seemingly arbitrary, and sometimes harsh and capricious, disciplinary methods had to be modified to control and monitor employees in a more modern, cooperative style.

The transit industry's work force, once dominated by male Caucasians, came to involve a large percentage of women and minorities, especially African Americans and Hispanic Americans. Coupled with the overall change in the work ethic, management

faced a challenge. Supervisors had to recognize significant differences in culture, background, and attitude among employees. Increased supervisory training was at least a partial solution to this challenge, as management sought to sensitize itself and its supervisory force to the new conditions.

## MAINTENANCE

Another critical element that management must deal with realistically is maintenance. Preventive maintenance is indispensable for reliable service; unfortunately, this type of maintenance often falls by the wayside in lean times. Preventive maintenance is very simply the process of finding a problem before it becomes a breakdown or the cause of an accident. It is for this reason, for example, that power-steering-fluid hoses are inspected or replaced on a regular basis rather than waiting until a hose breaks and the power steering on a bus becomes inoperable. Moreover, in these days of high equipment costs, a good preventive maintenance program can reduce the number of pieces of equipment that must be available as a backup to cover breakdowns and other problems that arise in operations. As a result, major savings can be made in capital investment, and greater reliability of service can be offered.

For transit properties with massive fixed facilities, this meant facing up to what often amounted to decades of deferred maintenance on those facilities that totaled nationally many billions of dollars. Enormous sums for capital replenishment have been needed and the job is far from finished. The work is often highly disruptive to operations and operating conditions are difficult.

All the various elements related to the management of transit—personnel, maintenance, routing and scheduling, equipment selection, communications, marketing, and organization—must be related in a systematic fashion by management. None of these elements stands alone; they must be woven together into a total managerial fabric. Understanding the relationship and knowing how best to take advantage of the various resources within a firm is the manager's prime job and must be fully understood in order to provide quality transit service.

## MANAGEMENT PERFORMANCE AUDITS

Good management practice demands a regular evaluation of performance. Sometimes called a management performance audit, the evaluation should be carried out either internally or by an external body. The advantage of an external group is that it brings new ideas and a fresh approach to a performance audit, as well as a perception of greater objectivity. Such audits reviewing the whole management of a transit property should be done every 3 or 4 years. Such audits are required regularly in California in order to receive state funding; a few other states also require some auditing. Internal audits should be carried out in depth each year on a few of the managerial functions, such as maintenance, financial management, or marketing.

Most audits start with the goals and objectives of the organization and the individual functions and compare the performance with the desired results. A well-done



audit will also carefully examine the various procedures and practices used in carrying out tasks. The performance audits will produce a report of findings and recommendations for management. Constant internal auditing and intermittent external audits should give management help in fine-tuning the system and improving the quality of operations, as well as getting the most out of each dollar.

Performance evaluation also embraces capital projects. Beginning in the 1980s, UMTA required that consultants be employed to monitor major transit capital undertakings. The aim was to avoid unnecessary design changes and the cost overruns that had been a problem from the very start of the federal aid program.

Transit management is a difficult job, but not an impossible one. For example, the success of Tidewater Transit in the Norfolk, Virginia, area is the result of careful route analysis; the use of performance targets; and careful pruning, support, and innovation in the delivery of public transportation. The Champaign-Urbana Mass Transit District in Illinois has used a high degree of innovation, strong market analysis and marketing promotion, careful fiscal management, excellent employee relations, and a passion for on-time performance, to carry 6 million passengers a year in an urbanized area of only a little over 100,000 souls. Port Authority Transit in Pittsburgh has used major capital investments in light rapid transit and exclusive busways, a watchful eye on finances, performance auditing, and innovative fare policies to provide a high quality of service in an area with a very difficult topography.

## SUMMARY

Management is a critical but often overlooked element in a successful urban mass transportation service. The use of modern business management concepts and techniques makes sense in the process of improving transit service. The important thing is to focus on consumers and how best to serve them. Only in this way can public transportation meet the reality of today's competitive market for transit service and the need to help improve life in U.S. urban areas.

The transit manager of today is faced with both opportunities and problems that are unlike those of his or her predecessor in the times long gone by, when transit had a virtual monopoly of transportation in American cities. The great opportunity facing transit management is the adoption of modern business practices, which will result in the smooth and effective operation of the transit service, with concomitant benefits to the community. Transit problems are most likely to arise from the industry's poor public image and poor quality of service relative to its competition.

As the director of a public enterprise, the transit manager exists in a new relationship with public officials. This often means that transit is called upon to perform social functions undreamed of in times past. The provision of special lower fares and special services for elderly and handicapped citizens is now required of all transit properties that accept federal funds. Those involved in transit management must

constantly arm themselves with facts and figures to make sure that public officials realize the implications of decisions made in regard to public services.

Management opportunities in the public transit field have probably never been more interesting or more exciting than at the present time. What lies ahead is equally as fascinating as the great challenges that faced the transit managers a century ago who mastered the problems of operating horse-railway systems and then were involved in the adventure of the changeover to electric traction. Whether or not the transit industry can meet its new challenges will largely lie in the hands of the coming generation of transit managers.

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Some of the ideas in this chapter originally appeared in GEORGE M. SMERK, "Mass Transit Management," *Business Horizons*, 14, no. 6 (December 1971), 5, 8-16.

<sup>1</sup> This very interesting approach was presented in an important article: NORMAN KANGUN AND WILLIAM A. STAPLES, "Selling Urban Transit," *Business Horizons*, 18, no. 1 (February 1975), 57-66.

## FURTHER READING

Some citations are no longer available from their original source. These citations are often available from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161. We have verified the order numbers for many of these citations, and they are found at the end of the citation. Prices are available through NTIS at the address above.

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## EXERCISES

- 16-1 What major difference in ownership is faced by transit management today that was not true in the first half of the twentieth century?
- 16-2 Why do transportation firms in general tend to be operations oriented? Why do transit properties tend to be operations oriented?
- 16-3 What is meant by consumer orientation in the modern business firm?
- 16-4 What are the roles of strategies, goals, and objectives in transit management?
- 16-5 What is the role of the governing board in transit management?
- 16-6 Why is it important for transit managers to understand consumer behavior?
- 16-7 What environments are faced by the transit manager?
- 16-8 Why is market segmentation a reasonable marketing strategy for transit?
- 16-9 What is the marketing mix in transit?
- 16-10 Why are personnel management and maintenance management critical in transit?

